Takashi MATSUSHIMA* & Haruyo ASAHINA**: *Oospora* sp. isolated from moldy opium

松島 崇*・朝比奈晴世**: 黴の生えた阿片より分離された *Oospora* について

Among the imported opium, moldy samples have been found frequently. The causal fungi cover the opium with white velvety to floccose appearances. In order to identify the causal fungi, 14 samples of moldy imported opium were examined. The result was summarized in table 1.

Table 1. Fungal flora of moldy opium

Sample	Growth of fungi	Causal fungi
Turkey-1	good	dominant species: *Oospora* sp. minor species: *Aspergillus wentii* Wehmer
Turkey-2	poor	growing species: *Oospora* sp.
Turkey-3	good	growing species: *Oospora* sp.
Turkey-4	very good	growing species: *Oospora* sp.
Turkey-5	very good	growing species: *Oospora* sp.
Turkey-6	very good	dominant species: *Aspergillus versicolor* (Vuill.) Tiraboschi minor species: *Oospora* sp.
Turkey-7	very good	dominant species: *Aspergillus versicolor* (Vuill.) Tiraboschi subdominant species: *Oospora* sp.
Turkey-8	very good	dominant species: *Oospora* sp. minor species: *Aspergillus versicolor* (Vuill.) Tiraboschi
Turkey-9	good	growing species: *Oospora* sp.
India-1	slight	growing species: *Oospora* sp.
India-2	poor	growing species: *Oospora* sp.
India-3	slight	growing species: *Oospora* sp.
Indochina	good	growing species: *Oospora* sp.
Yugoslavia	poor	growing species: *Oospora* sp.

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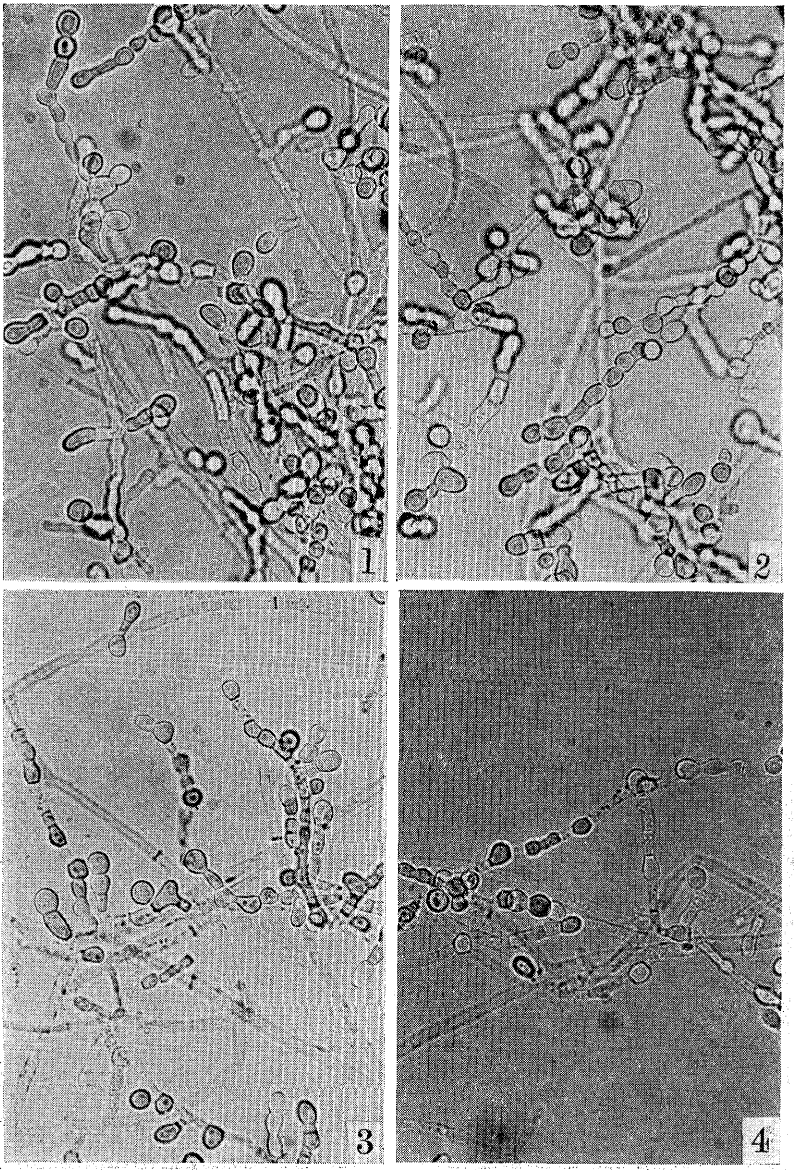

Fig. 1—4. Microphotographs of *Oospora* sp. NHL 4151, ×500

It was confirmed that *Oospora* was the main flora of moldy imported opium. All strains of *Oospora* isolated from different samples have the same morphological characters and consequently belong to the same species.

In the isolation works from the moldy samples, an osmophylic nature of this fungus was noticed. This fungus could grow poorly on malt agar, potato dextrose agar, and Czapek-Dox agar, but good growth was obtained on 5 to 10% NaCl added malt agar, potato dextrose agar, and 20% sucrose added Czapek-Dox agar. The result of the detailed study was summarized in table 2 and fig. 5-6.

Table 2. The growth of *Oospora* sp. on malt agar with different concentrations of NaCl.

NaCl (w/v%)	Diameters of colonies in cm. (mean values from triplicate plates)		
	days* 7	21	30
0	+**	1.4	1.8
5	1.4	4.4	5.6
10	0.9	3.1	4.0
15	+**	1.3	1.6
20	0	+**	+**

* at 25°C. ** no radial increment.

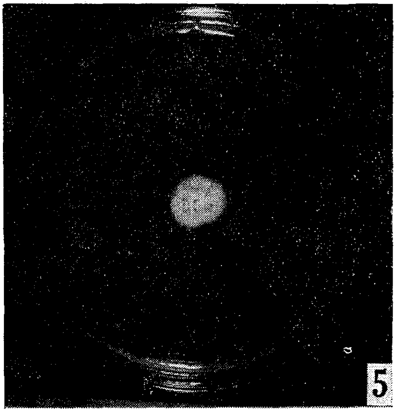

Fig. 5. Colony on malt agar in 21 days at 25°C.

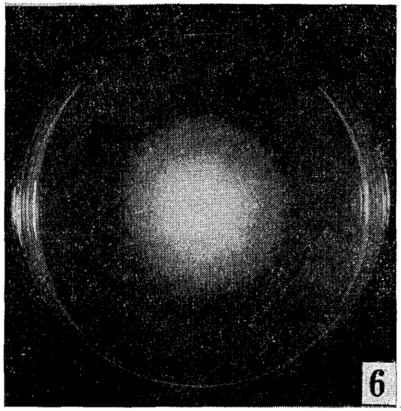

Fig. 6. Colony on 5% NaCl added malt agar in 21 days at 25°C.

The genus *Oospora* is still in the state of confusion in its classification and no monograph is available at present. Under this situation, it is not desirable to set up a new species, therefore, this fungus is described as *Oospora* sp. NHL 4151.

Oospora sp. NHL 4151

Colony white, osmophylic, poor growth on malt agar, potato dextrose agar, and Czapek-Dox agar; but good growth on 5 to 10% NaCl added malt agar, potato dextrose agar, and 20% sucrose added Czapek-Dox agar.

On 5% NaCl added malt agar, attaining diameters of 1.4, 4.4, and 5.6 cm in 7, 21, and 30 days at 25°C., respectively, contrasting with 0, 1.4, and 1.8 cm on normal malt agar. Forms a white, thin, spreading turf consisting of mycelium and conidia in simple or branched chains with simple, short fertile hyphae. Chlamydospores present in vegetative mycelia. Conidia variously shaped, globose, barrel shaped to elliptical, 5-11 μ (fig. 1-4).

Matsushima et al. (1) have been studying on the mycoflora of various crude drugs in different environment conditions, but no *Oospora* sp. of this type has been recorded. *Oospora* sp. NHL 4151 may be a characteristic fungus on opium in certain condition.

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Reference

Matsushima, Takashi, Hiroshi Ito, and Mineko Ikeda (1957) Investigation on the fungal spoilage of crude drugs (1). Journ. Jap. Bot. **32**: 201-207.

○ケミツバタチツボスミレ (檜山庫三) Kōzō HIYAMA: A form of *Viola grypoceras* A. Gray.

タチツボスミレで托葉が普通葉化したものはミツバタチツボスミレ (*Viola grypoceras* A. Gray forma *trifolia* Nakai) と呼ばれるが，ケタチツボスミレでこれと同じことをやるものが稀にあつて，1957 年の春に群馬県利根郡白沢村岩室で武井武一氏が採集された。これにケミツバタチツボスミレの名を与える。

Viola grypoceras A. Gray forma **Takeii** Hiyama, nov. f.

Planta pubescens, stipulae foliaceae ut f. *trifolia*. Cetera ut in typo.

Nom. Jap. Ke-mitsubatachitsubosumire.

Hab. Hondo: Iwamuro, Sirasawa-mura, Tone-gun, prov. Kodzuke (T. Takei-Mai. 8, 1957—typus in herb. TNS.).